



**DEPARTMENT OF DEFENSE  
PANEL TO REVIEW THE V-22 PROGRAM  
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**April 30, 2001**

**Chairman**  
*John R. Dailey*

**Subject: Minutes of the Panel to Review the V-22 Program  
Open Meeting, April 18, 2001**

**Panel Members**  
*Norman R. Augustine  
James B. Davis  
Eugene E. Covert*

**Executive Secretary**  
*Gary J. Gray*

On April 18, 2001, the Panel to Review the V-22 Program conducted an open meeting for deliberations in the Arlington Ballroom of the Crowne Plaza Hotel located at 1489 Jefferson Davis Highway, Arlington, Virginia 22202. The meeting began at 9:00 a.m. and concluded at 1:02 p.m. Panel member attendees were: General John R. Dailey, USMC (Retired), Chairman; Mr. Norman R. Augustine; General James B. Davis, USAF (Retired); and Dr. Eugene E. Covert. Panel staff attendees were: Mr. Gary J. Gray, Executive Secretary; Colonel Rick Schwartz, USMC; Colonel Carl A. Steel, USAF; Mr. Bryan D. O'Connor (Consultant), Dr. Hector O. Nevarez, Mrs. Carolyn F. Duke and Mr. Douglas Y. K. Pang. Interested individuals and members of the press were present for the proceedings.

Lieutenant Colonel David Lapan, USMC, opened the meeting, explained the purpose of the Panel, introduced the Panel Members and Staff and then turned the meeting over to the Chairman.

The Chairman reviewed the activity of the Panel from its initial chartering to its current status. He then described the methods used by the Panel to accomplish its task. Finally he explained the purpose of the meeting and delineated the Panel's future tasks.

The deliberations followed with the staff members presenting issues that were broken down into the following three parts: discussion, possible conclusions, and possible recommendations. At any point during each presentation, Panel Members could and did interrupt to ask questions and discuss the issue. During the "possible recommendation" section of each issue, the Panel Members discussed the issue and then accepted, rejected, modified, and/or added recommendations. The issues covered during the meeting were:

**Safety**

- Crashworthy Fuel Cells
- Flight Control System Reliability
- The Mirana Mishap and Vortex Ring State
- OPEVAL Crew Qualifications
- MV-22 Aircrew Flight Training
- Downwash Concerns
  - Remote Area Operations

- Personnel Deployment/Recovery from In Ground Effect/Out of Ground Effect Hover
- External Load Operations
- Autorotation
- Safety Implications of the Tiltrotor Concept
- System Safety Program
- DOT&E Safety Issues
- Quality Control

#### Combat Effectiveness

- Reliability and Readiness
- Maintainability and the Nacelle
- Viability of IETM for the V-22
- Utilization of Optimized Naval Aviation Logistics Command Management Information System (NALCOMIS) by VMMT-204
- V-22 Maintenance Training System
- V-22 Diagnostic Capability

#### Programmatics

- Lack of Adequate Communications among NAVAIR, Bell/Boeing and the Customer
- The Joint Program and Systems Engineering
- Affordability
- Funding Reserves
- CV-22 Block 0 Development Funding
- Spares Adequacy
- V-22 Aircraft Modifications
- Analysis of Alternatives

Upon completion of the presentations and deliberations, the Chairman asked the Panel Member if they were satisfied that there's no inherent safety flaw in the design concept of the tiltrotor. All Panel Members made statements of agreement. The Chairman also asked if other aspects of the program including reliability and training were adequately covered in the discussion. Upon completion, the Chairman summarized the proceedings.

The final slide of the presentation presented the Panel with three potential recommendations that the Panel could make. The three options were: 1) cancel the program and go with the best alternative, 2) proceed with the baseline program, or 3) proceed with a restructured program. At this point, each Panel Member was given an opportunity to discuss the options.

The unanimous decision was to proceed with a restructured program and to use a phased approach to return to flight and tactical introduction. The Panel made specific recommendations covering:

- Minimum sustainable production rate in the near-term
- Adequate and stable funding
- Requirements validation
- Safety (hardware, software, operations)
- Reliability and maintainability
- Quality
- Training
- Technical publications
- Communications across the program (operators, contractors, engineers, etc.)

Upon making their recommendation, Dr. Covert and the Chairman thanked all parties including Panel members that contributed to the Panel's effort. The Chairman thanked the other Panel members and closed the session.



J. R. Dailey